

---

**U. S. Department of Commerce**

**National Oceanic and Atmospheric Administration**

**National Marine Fisheries Service**

---

NOAA Technical Memorandum NMFS-SEFC-208



**A Graphical Presentation of  
Economic Data for the  
Shrimp Fishery in the  
Gulf of Mexico  
January 1981 to December  
1986**

---

by:

**Sujata Bose Sinha**

**National Marine Fisheries Service  
Southeast Regional Office  
9450 Koger Blvd.  
St. Petersburg, FL 33702**

**August 1988**



**A Graphical Presentation of  
Economic Data for the Shrimp  
Fishery in the Gulf of Mexico  
January 1981 to December 1986**

by: Sujata Bose Sinha

U. S. Department of Commerce  
C. William Verity, Secretary

National Oceanic and Atmospheric Administration  
William E. Evans, Administrator

National Marine Fisheries Service  
James W. Brennan, Assistant Administrator for Fisheries

August 1988

Technical Memoranda are used for documentation and timely communication of preliminary results, interim reports, or special purpose information, and have not received complete formal review, editorial control, or detailed editing.

## **Notice**

---

The National Marine Fisheries Service (NMFS) does not approve, recommend or endorse any proprietary product or proprietary material mentioned in this publication. No reference shall be made to NMFS, nor to this publication furnished by NMFS, in any advertising or sales promotion which would indicate or imply that NMFS approves, recommends or endorses any proprietary product or proprietary material mentioned herein, or which has as its purpose an intent to cause directly or indirectly the advertised product to be used or purchased because of this NMFS publication.

This report should be cited as follows:

**Sujata Bose Sinha. 1988. A Graphical Presentation of Economic Data for the Shrimp Fishery in the Gulf of Mexico January 1981 to December 1986. NOAA Technical Memorandum NMFS-SEFC-208, 30 p.**

Copies may be obtained by writing:  
National Technical Information Service  
5258 Port Royal Rd.  
Springfield, VA 22161

## **Acknowledgement**

---

I express sincere thanks to Ms. Carolyn Dempsey whose wonderful work in desktop publishing provided the essential final thrust for getting this technical memorandum completed. Thanks also to Dr. John Vondruska for his assistance in clarifying the Lotus 123 graphics, Mr. Richard Raulerson who provided the institutional support, and to Mr. John Ward for his support and assistance in getting this work published. Any errors remain the responsibility of the author.

## Table of Contents

---

|  | Page |
|--|------|
| Introduction . . . . .                                 | 1    |
| Explanation of the Graphs . . . . .                    | 1    |
| Graph 1 Pounds of Shrimp Caught . . . . .              | 4    |
| Graph 2 Revenue: Current Dollars . . . . .             | 4    |
| Graph 3 Revenue in Constant (1981) Dollars . . . . .   | 5    |
| Graph 4 Average Price per Pound . . . . .              | 5    |
| Graph 5 Return/Pound: Current \$ . . . . .             | 6    |
| Graph 6 Number of Vessels . . . . .                    | 6    |
| Graph 7 Average Catch per Vessel . . . . .             | 7    |
| Graph 8 Average Vessel Earnings . . . . .              | 7    |
| Graph 9 Real Earnings Per Vessel . . . . .             | 8    |
| Graph 10 Growth: Pounds Landed . . . . .               | 8    |
| Graph 11 Shrimp Revenue Growth . . . . .               | 9    |
| Graph 12 Growth of Total Revenue . . . . .             | 9    |
| Graph 13 Growth of Average Price . . . . .             | 10   |
| Graph 14 Rate of Growth of Price . . . . .             | 10   |
| Graph 15 Growth of Number of Vessels . . . . .         | 11   |
| Graph 16 Growth of Average Catch . . . . .             | 11   |
| Graph 17 Growth: Average Earnings . . . . .            | 12   |
| Graph 18 Rate of Growth: Earnings . . . . .            | 12   |
| Graph 19 Landings of Individual States . . . . .       | 13   |
| Graph 20 Revenues of Individual States . . . . .       | 13   |
| Graph 21 Average Price: Each State . . . . .           | 14   |
| Graph 22 1981 Monthly Landings by State . . . . .      | 14   |
| Graph 23 1981 Monthly Price by State . . . . .         | 15   |
| Graph 24 1982 Monthly Landings by State . . . . .      | 15   |
| Graph 25 1986 Monthly Landings by State . . . . .      | 16   |
| Graph 26 1986 Monthly Earnings by State . . . . .      | 16   |
| Graph 27 1986 Monthly Average Price by State . . . . . | 17   |
| Graph 28 Monthly Catch by State . . . . .              | 18   |
| Graph 29 Monthly Catch Value by State . . . . .        | 18   |
| Graph 30 1981 Average Trips per Vessel . . . . .       | 19   |
| Graph 31 1982 Average Trips per Vessel . . . . .       | 19   |
| Graph 32 1983 Average Trips per Vessel . . . . .       | 20   |
| Graph 33 1984 Average Trips per Vessel . . . . .       | 20   |
| Graph 34 1985 Average Trips per Vessel . . . . .       | 21   |
| Graph 35 1986 Average Trips per Vessel . . . . .       | 21   |

## Table of Contents

---

|          |                                       |    |
|----------|---------------------------------------|----|
| Graph 36 | Vessel Distribution by Trip Class . . | 22 |
| Graph 37 | Number of Vessels in Trip Class . . . | 22 |
| Graph 38 | Vessel Distribution by Trip Class . . | 23 |
| Graph 39 | Vessel Distribution by Trip Class . . | 23 |
| Graph 40 | Average Catch by Trip Class . . . .   | 24 |
| Graph 41 | Average Landings by Trip Class . . .  | 24 |
| Graph 42 | Average Earnings by Trip Class . . .  | 25 |
| Graph 43 | Average Earnings-Trip Class (1981\$)  | 25 |
| Graph 44 | Average Earnings by Trip Class . . .  | 26 |
| Graph 45 | Average Price Received by Class . .   | 26 |

---

## INTRODUCTION

---

The Gulf of Mexico shrimp fishery encompasses large physical and economic dimensions. Data on revenue from this fishery is maintained by the National Marine Fisheries Service in the Southeast Fisheries Center's shrimp landings files. The graphs and tables presented here illustrate aspects of that data from January 1981 to December 1986 inclusive.

The data is presented here on an essentially macro scale aggregating over all species and size of shrimp found in the Gulf of Mexico. The first part of the presentation presents information extracted on an aggregated Gulf-wide basis. The second part presents data on a more disaggregated scale where it is extracted on a state-wide basis for the five individual states, i.e. Florida west coast, Alabama, Mississippi, Louisiana, and Texas. The third section presents the data on the basis of the number of trips taken by individual vessels in any year.

It is hoped that these charts will generate interest for further and more rigorous economic analysis of the Gulf of Mexico shrimp fishery.

---

## EXPLANATION OF THE GRAPHS

---

### Gulf of Mexico

---

The data extracted for use in this section from the NMFS shrimp landings files includes all of those trips taken in any calendar year from 1981 to 1986 inclusive, by vessels in the Gulf of Mexico, which were either wholly offshore trips, or were trips which were taken in a combination of offshore and inshore waters. The data used in this section also includes all of the consolidated records for each calendar year in the shrimp landings files. All graphs involving dollar denominations appear both in current as well as constant dollars. Data extracted on a Gulf-wide basis are illustrated in graphs 1

to 18. Graphs 1 to 9 show levels of the variables. Graphs 10 to 18 show rates of growth (R.O.G.) of the variables.

### **Individual States**

---

The data extracted on the state-wide basis for each of the five individual states for presentation in this section excludes all trips which were taken exclusively in in-shore waters. All consolidated records appearing in NMFS shrimp landings files also are excluded from data extracted on a state-wide basis. Unless otherwise stated, only the current dollar values of variables involving money are presented in the graphs. Graphs 19 to 21 present annual data for each state in the Gulf of Mexico. Graphs 22 to 27 present monthly data for particular years attributable to each state over the six years for a comparison of possible changes in market share of the individual states over this time. Graph 29 uses dollar values deflated by the producer price index and shows value of landings in constant (1981) dollars.

### **Number of Trips**

---

Graphs 30 to 45 present information based on the number of trips taken by individual boats and vessels. The data used excludes trips taken wholly in inshore waters, and excludes all consolidated records in shrimp landings files.

Graphs 30 to 35 sequentially represent years 1981 to 1986 and show the number of vessels that have taken a certain number of trips during each of these years. Graph 36 combines all six years and has classification of the number of trips along the horizontal axis. The number of trips are classified as being from 1 to 10, 11 to 20, etc., all the way up to 151 to 160. Thus, number 10 along the horizontal axis indicates the number of vessels that have made between 1 and 10 trips for that year.

Graph 37 presents the same information as graph 36, except the years are stacked on top of one another to show which class of trips is the most common one taken

by the maximum number of vessels. Graphs 38 and 39 have the same information giving a comparison of all six years, but present the information to show greater detail.

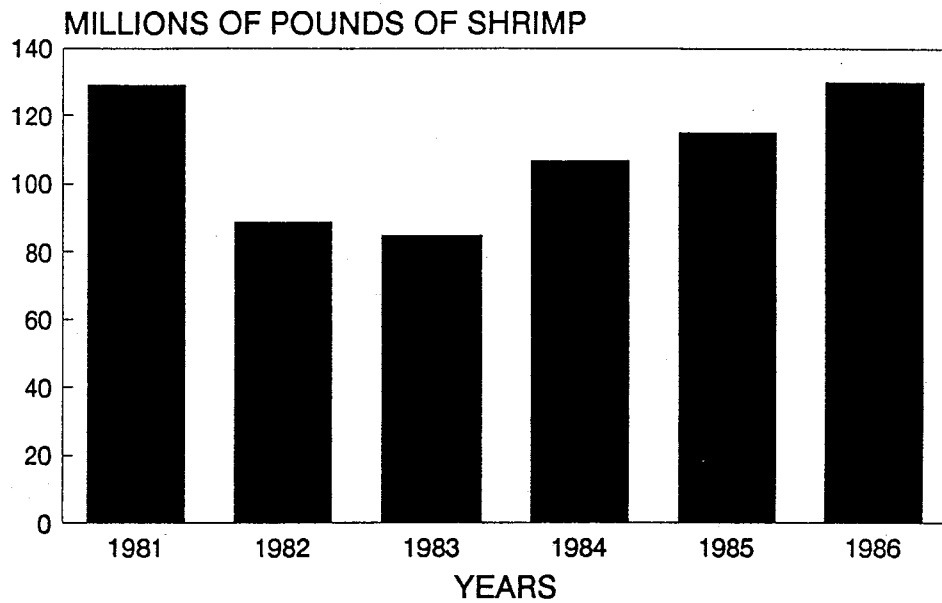
Graphs 40 and 41 present information on the average pounds of shrimp caught by each class. Graph 40 shows the entire range of the number of trips for all six years. Graph 41 stacks the six years to show which class on average had the highest catch.

Graphs 42 through 45 present information on earnings. Graph 42 shows the average earnings in terms of current dollars for each class of trips for all six years, and over the entire range of the number of trips taken by individual vessels over this period. Graph 43 presents the same information but in constant (1981) dollars. Graph 44 stacks the six years on top of one another to show which class on average had earned the most.

Graph 45 presents information on the average price or average return per pound received by the various classes of trips taken. It shows return per pound in current dollars for all six years.

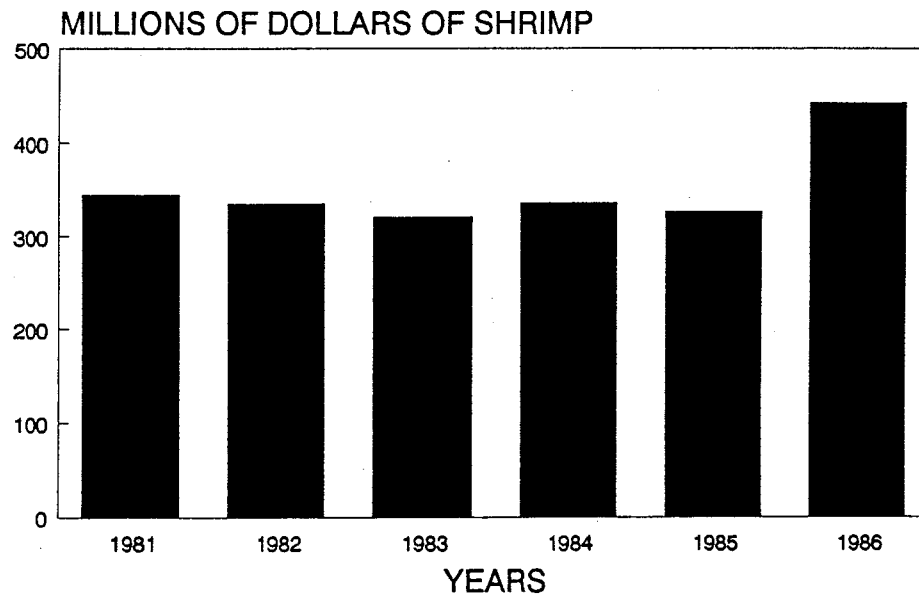


## POUNDS OF SHRIMP CAUGHT GULF OF MEXICO



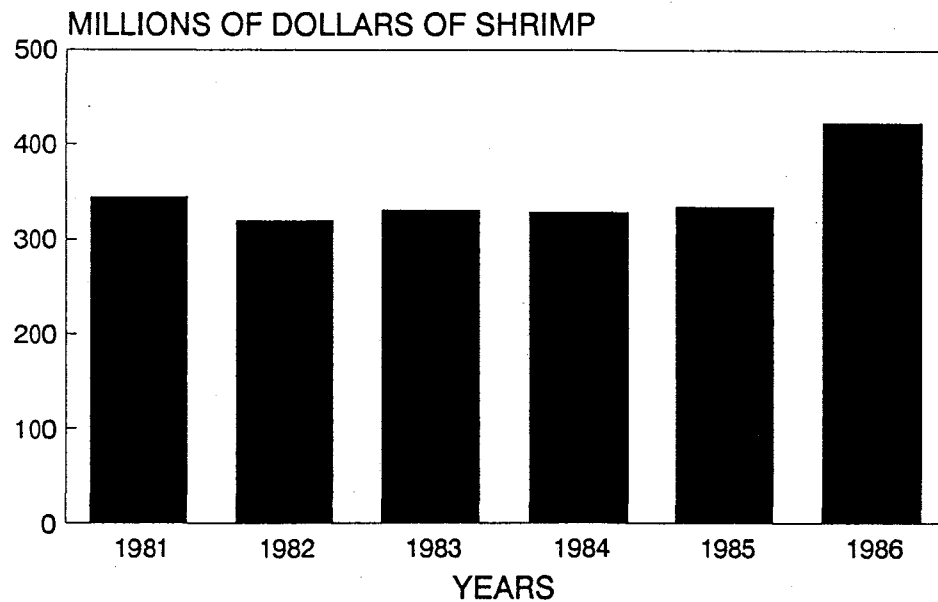
GRAPH 1

## REVENUE: CURRENT DOLLARS GULF OF MEXICO



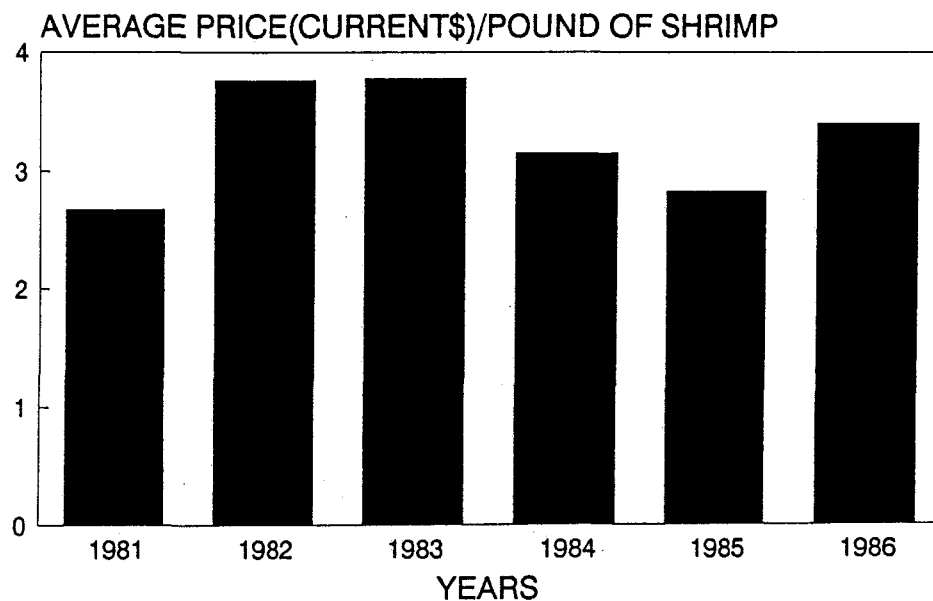
GRAPH 2

## REVENUE IN CONSTANT(1981) DOLLARS GULF OF MEXICO



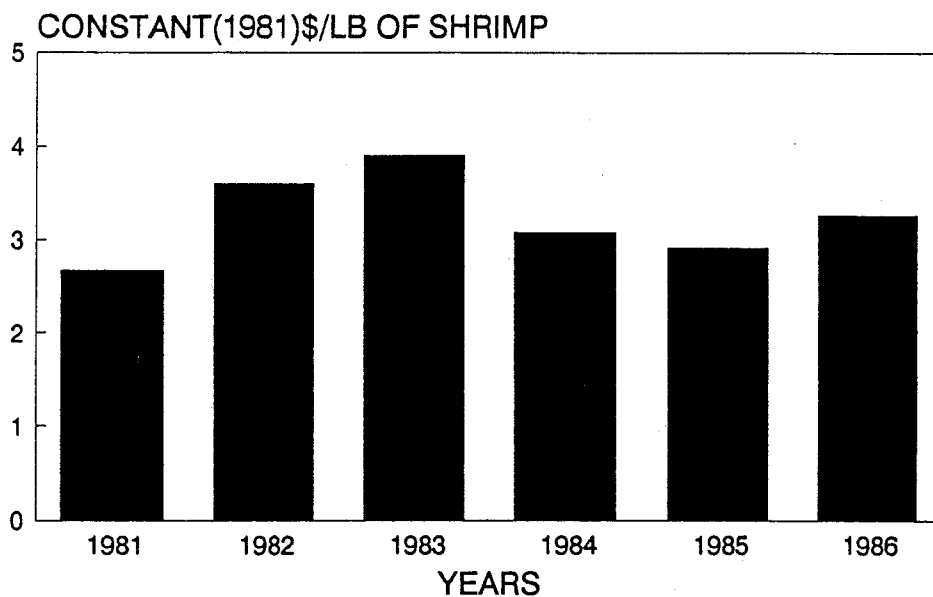
GRAPH 3

## AVERAGE PRICE PER POUND GULF OF MEXICO SHRIMP



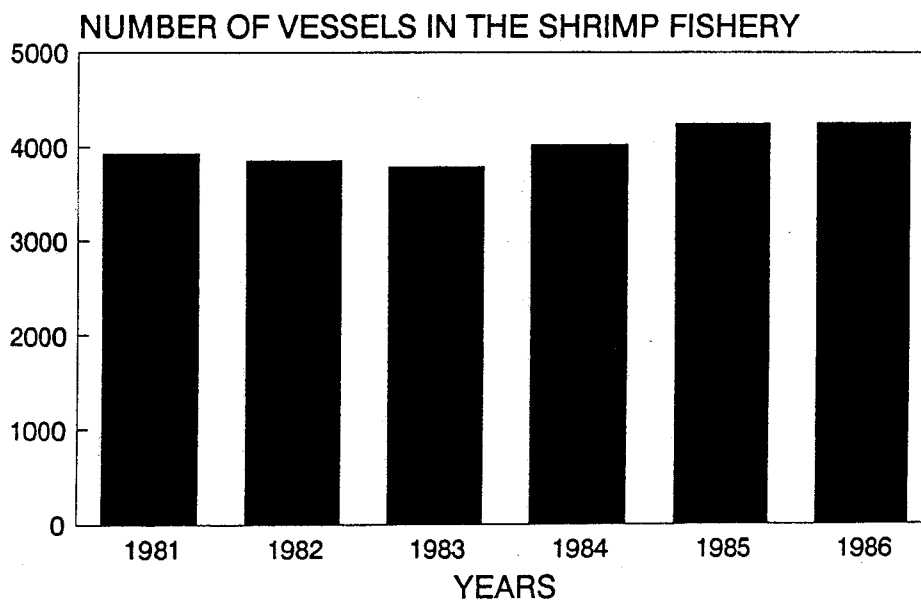
GRAPH 4

## RETURN/POUND:CURRENT \$ GULF OF MEXICO



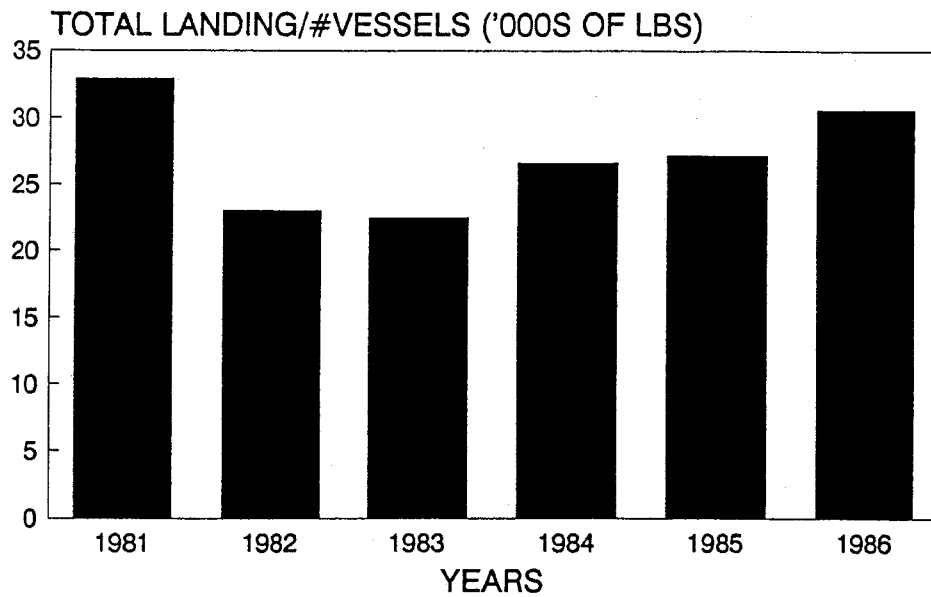
GRAPH 5

## NUMBER OF VESSELS GULF OF MEXICO SHRIMP



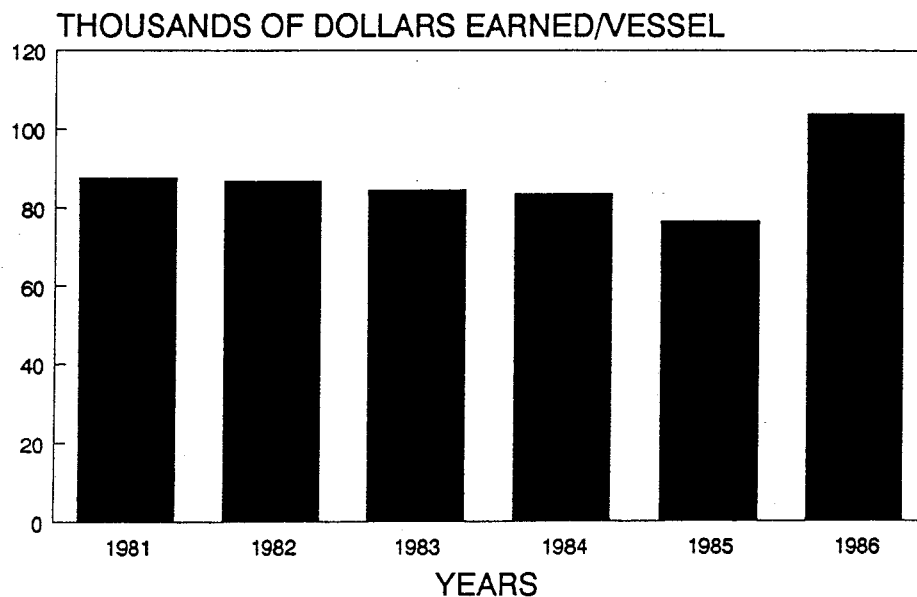
GRAPH 6

## AVERAGE CATCH PER VESSEL GULF OF MEXICO SHRIMP



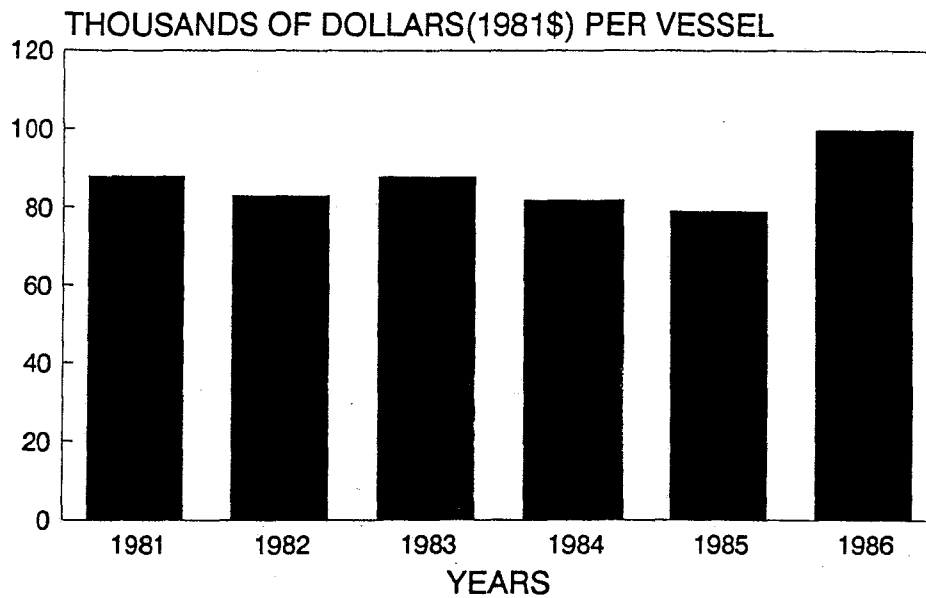
GRAPH 7

## AVERAGE VESSEL EARNINGS GULF OF MEXICO SHRIMP



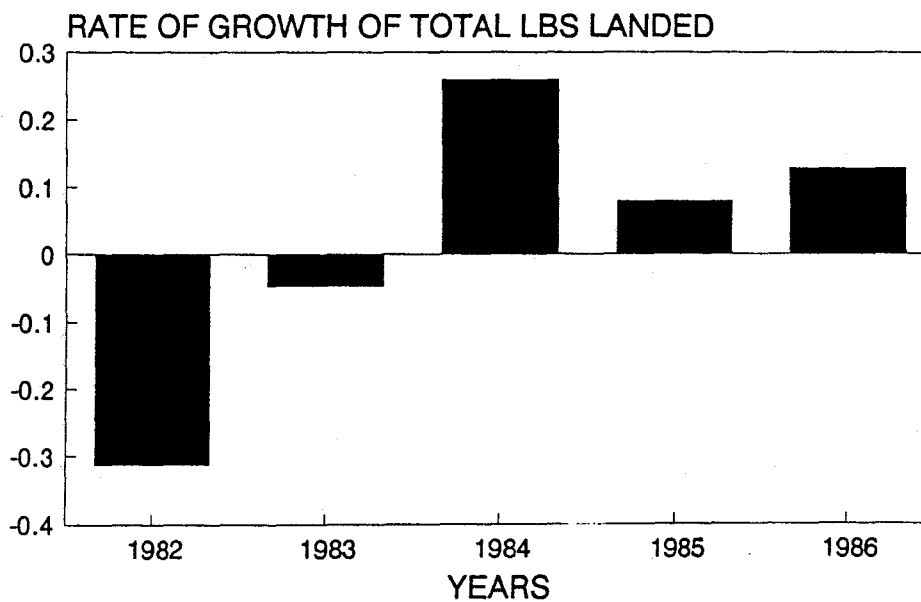
GRAPH 8

## REAL EARNINGS PER VESSEL GULF OF MEXICO SHRIMP



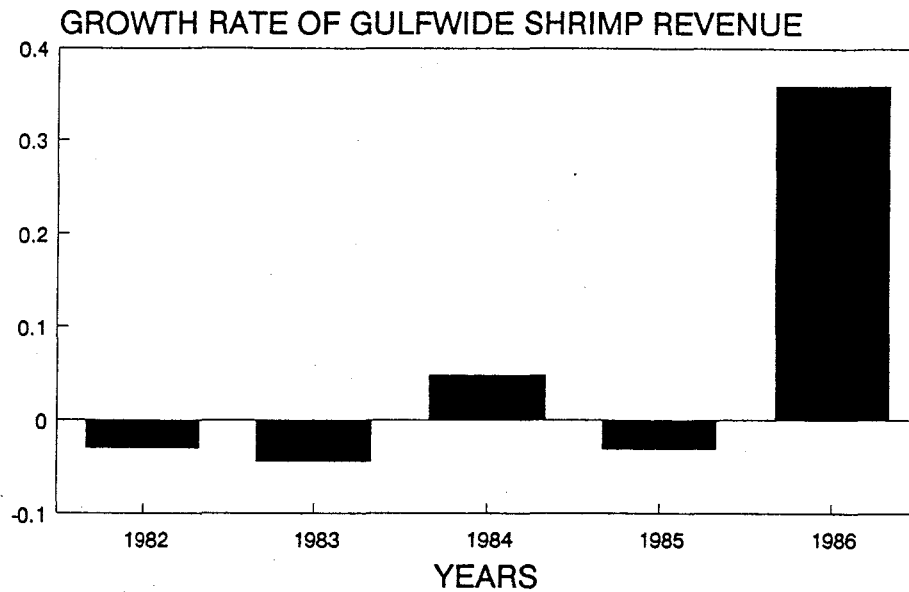
GRAPH 9

## GROWTH:POUNDS LANDED GULF OF MEXICO SHRIMP



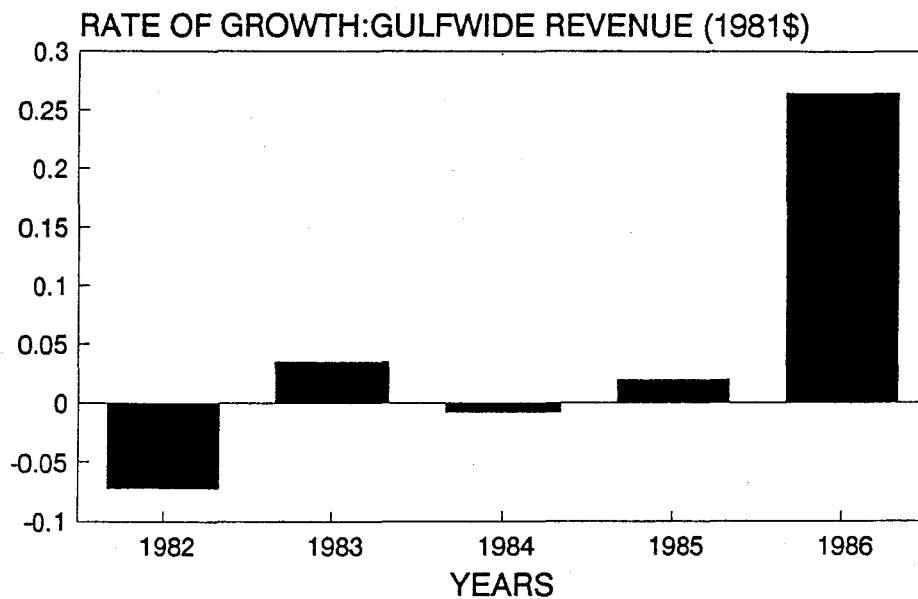
GRAPH 10

## SHRIMP REVENUE GROWTH GULF OF MEXICO SHRIMP



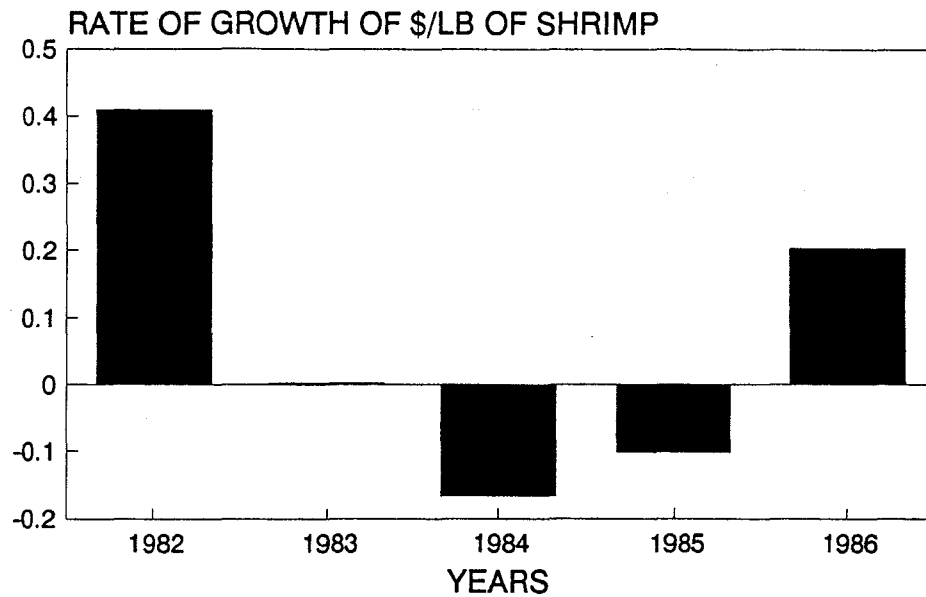
GRAPH 11

## GROWTH OF TOTAL REVENUE GULF OF MEXICO SHRIMP



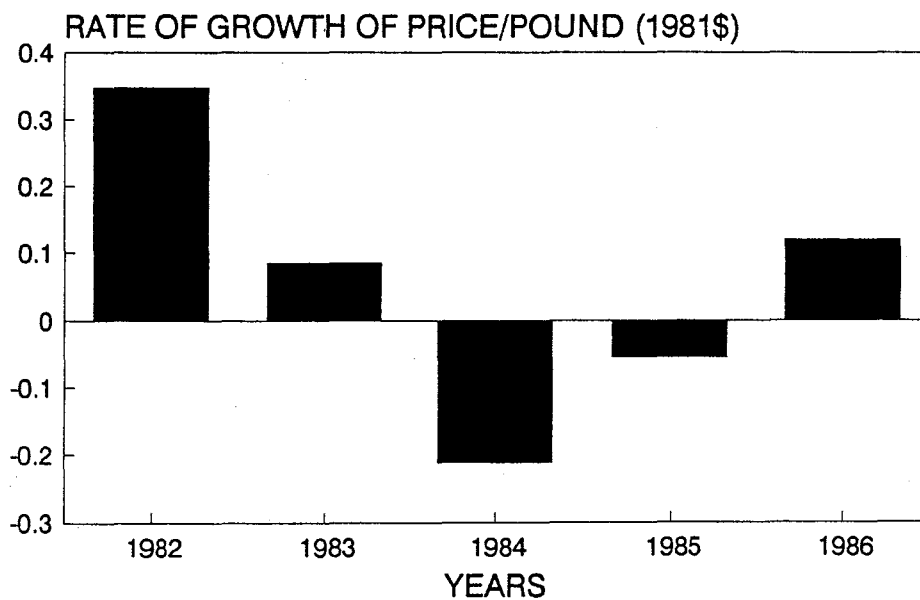
GRAPH 12

## GROWTH OF AVERAGE PRICE GULF OF MEXICO SHRIMP



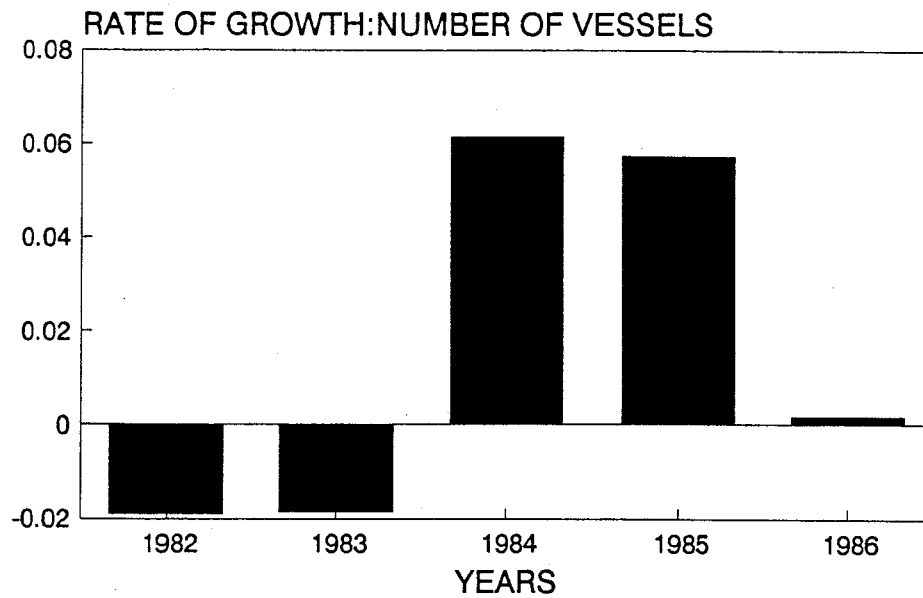
GRAPH 13

## RATE OF GROWTH OF PRICE GULF OF MEXICO SHRIMP



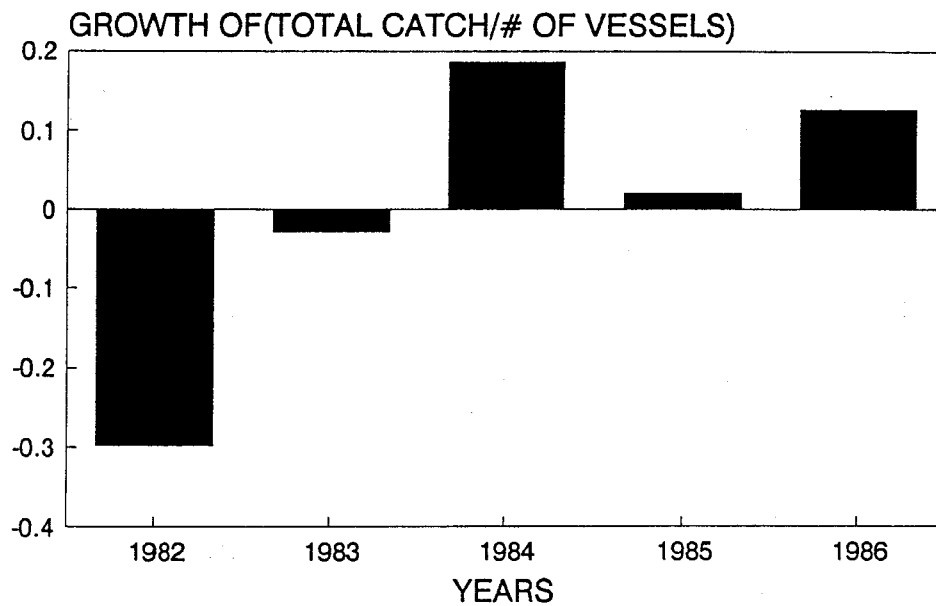
GRAPH 14

## GROWTH OF NUMBER OF VESSELS GULF OF MEXICO SHRIMP



GRAPH 15

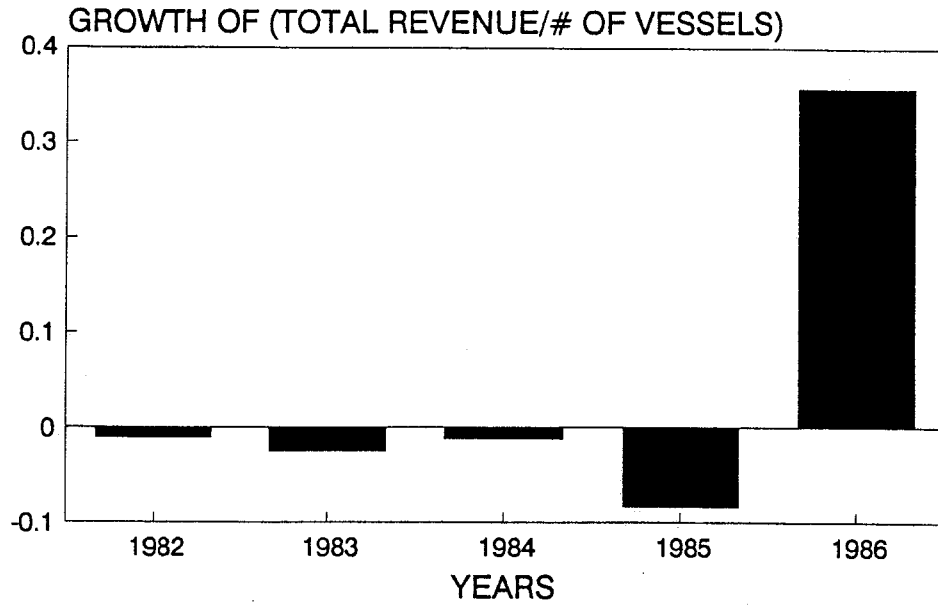
## GROWTH OF AVERAGE CATCH GULF OF MEXICO SHRIMP



GRAPH 16

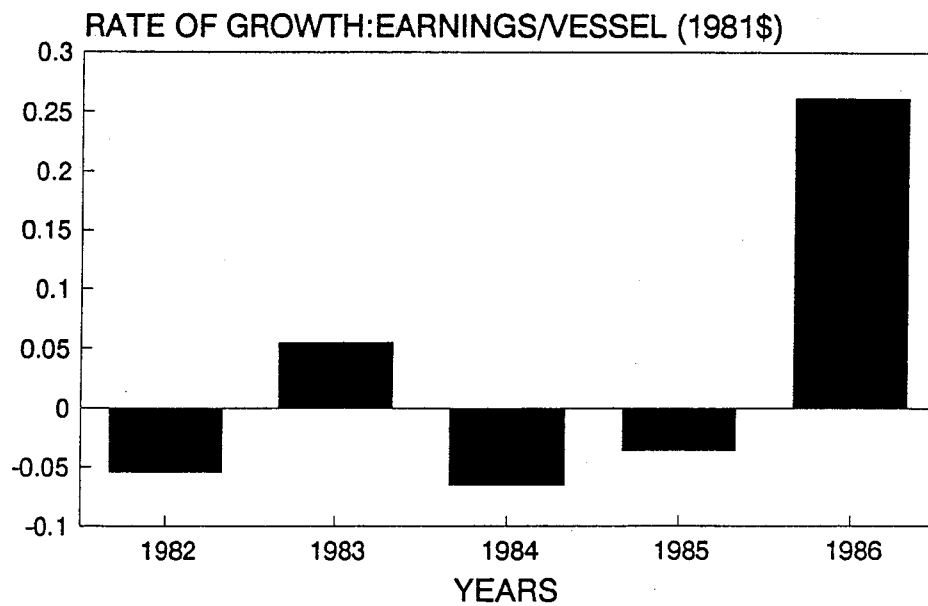


## GROWTH:AVERAGE EARNINGS GULF OF MEXICO SHRIMP



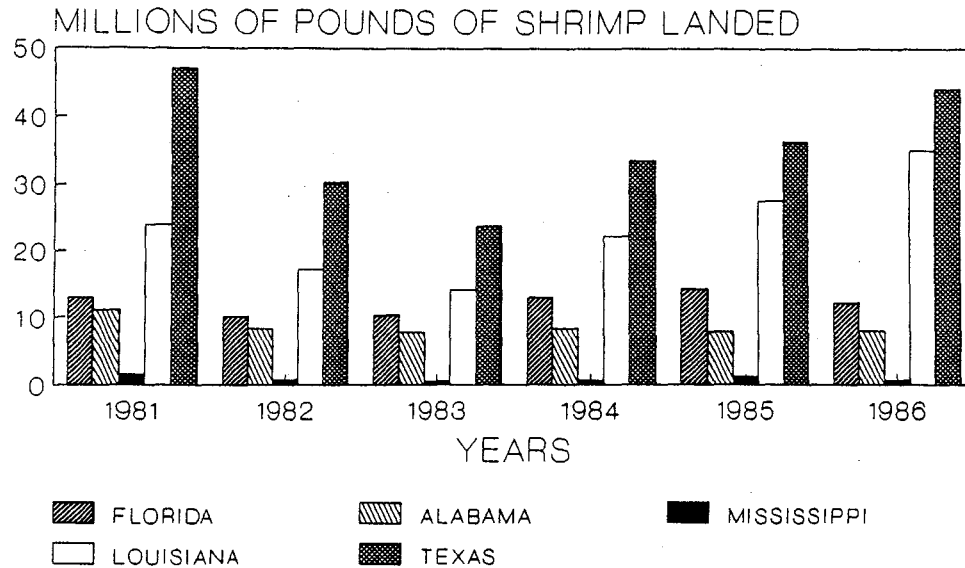
GRAPH 17

## RATE OF GROWTH:EARNINGS GULF OF MEXICO SHRIMP



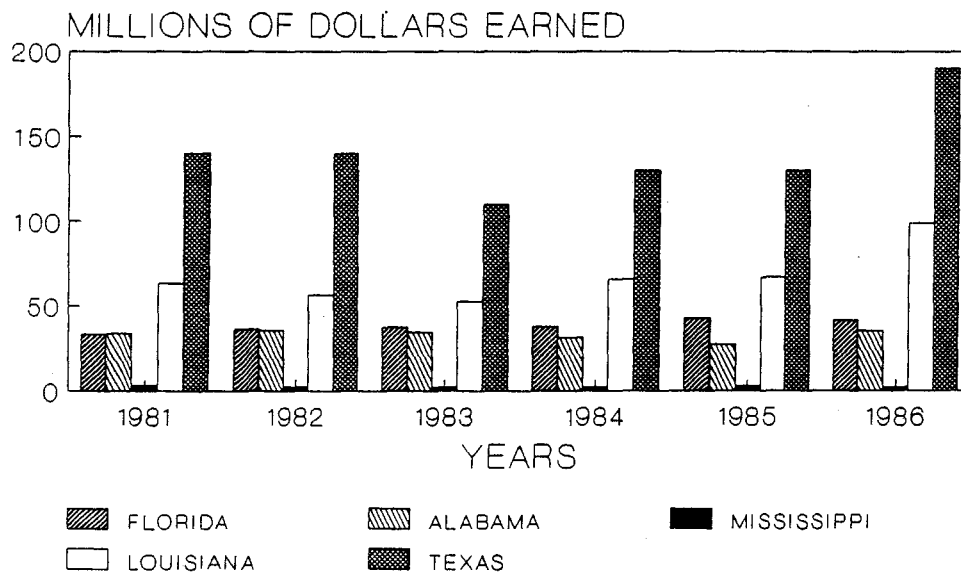
GRAPH 18

## LANDINGS OF INDIVIDUAL STATES GULF OF MEXICO SHRIMP



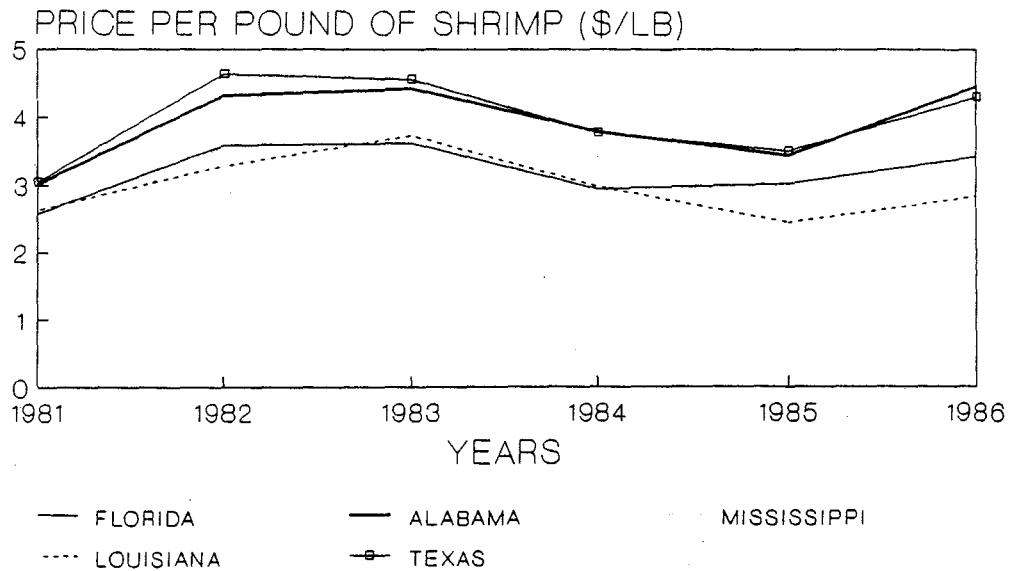
GRAPH 19

## REVENUES OF INDIVIDUAL STATES GULF OF MEXICO SHRIMP



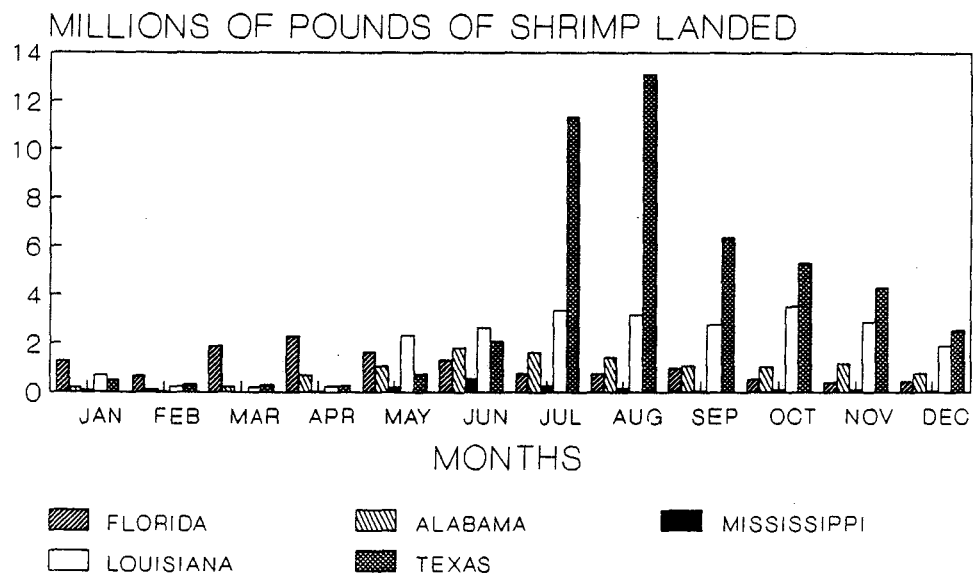
GRAPH 20

## AVERAGE PRICE: EACH STATE GULF OF MEXICO SHRIMP



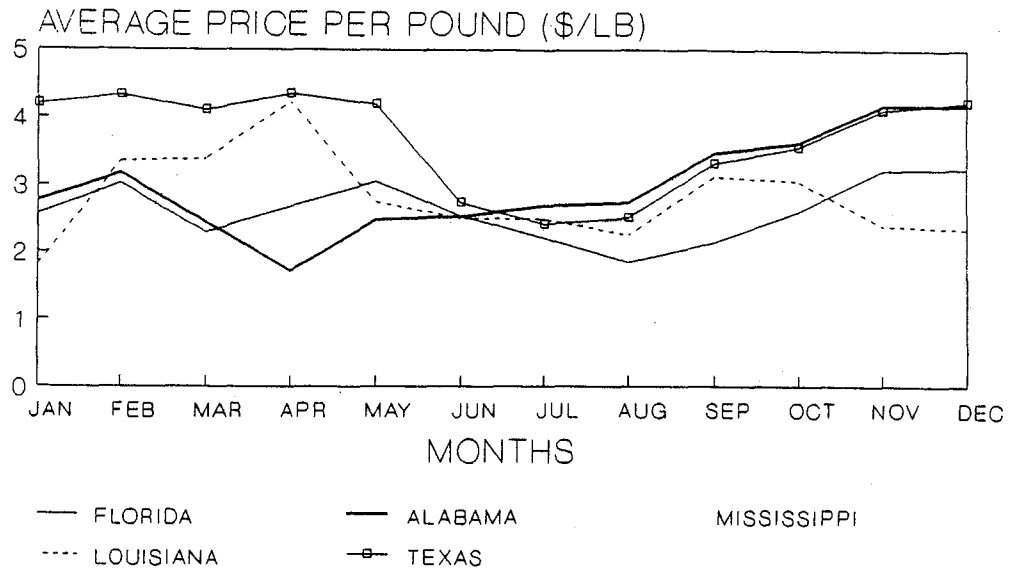
GRAPH 21

## 1981 MONTHLY LANDINGS BY STATE GULF OF MEXICO SHRIMP



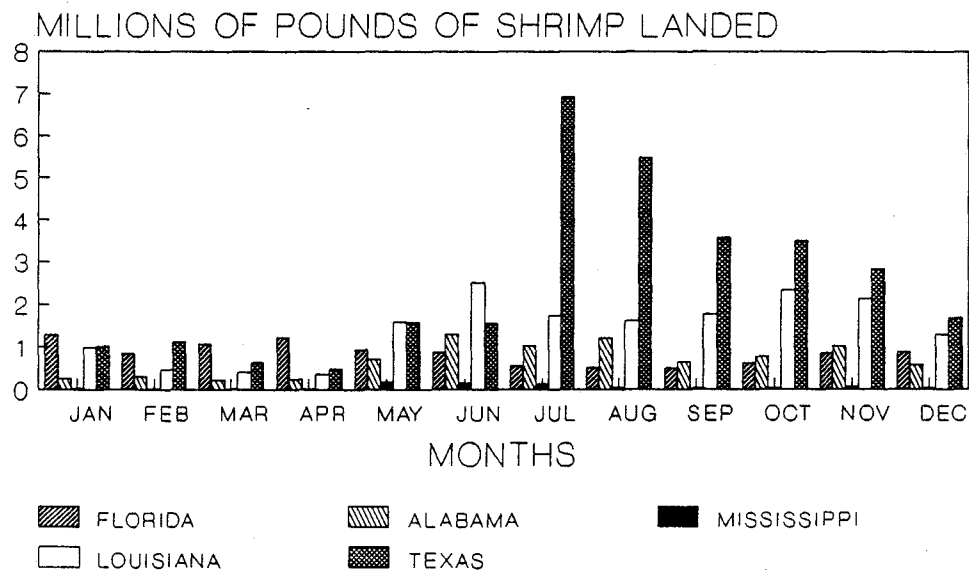
GRAPH 22

## 1981 MONTHLY PRICE BY STATE GULF OF MEXICO SHRIMP



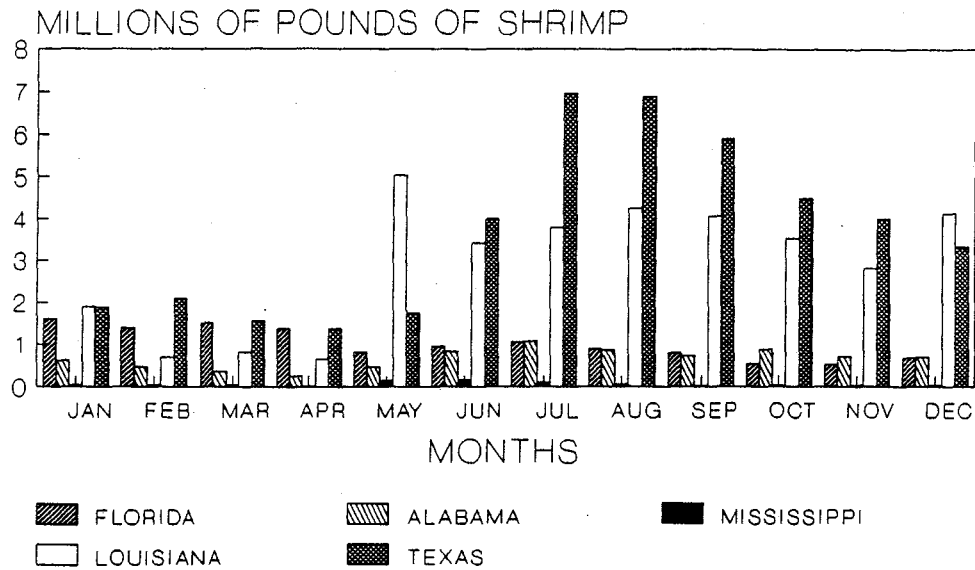
GRAPH 23

## 1982 MONTHLY LANDINGS BY STATE GULF OF MEXICO SHRIMP



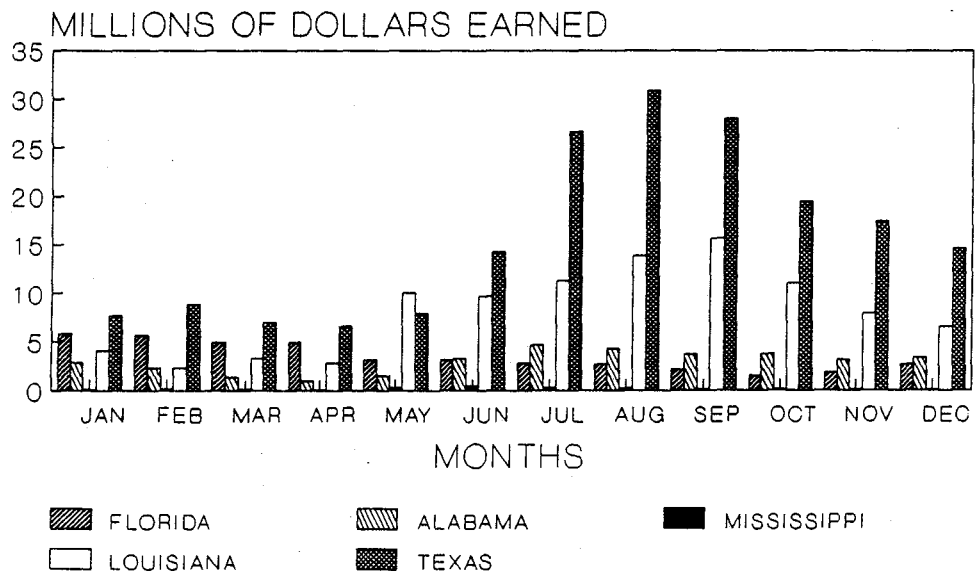
GRAPH 24

## 1986 MONTHLY LANDINGS BY STATE GULF OF MEXICO SHRIMP



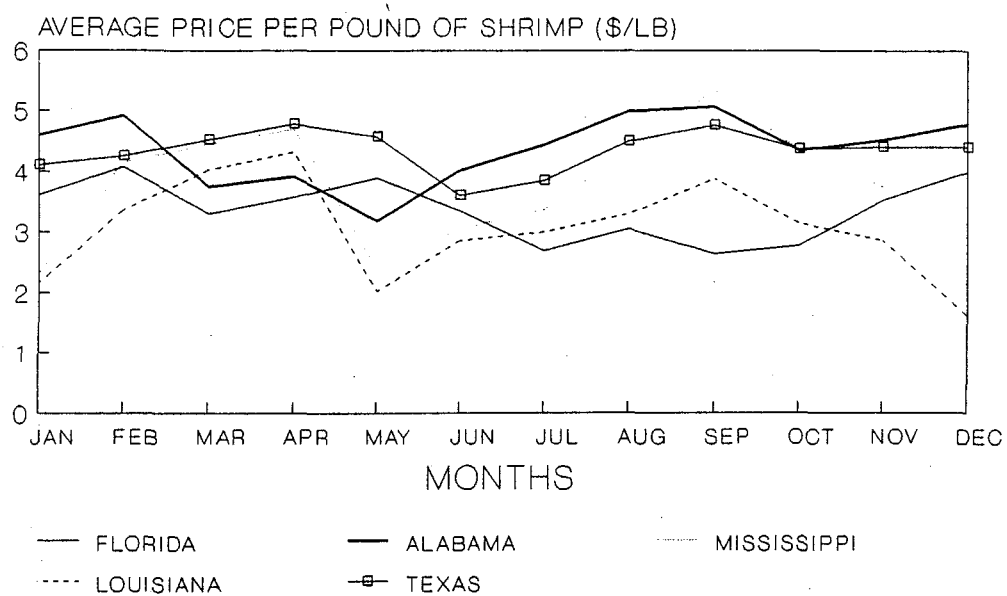
GRAPH 25

## 1986 MONTHLY EARNINGS BY STATE GULF OF MEXICO SHRIMP



GRAPH 26

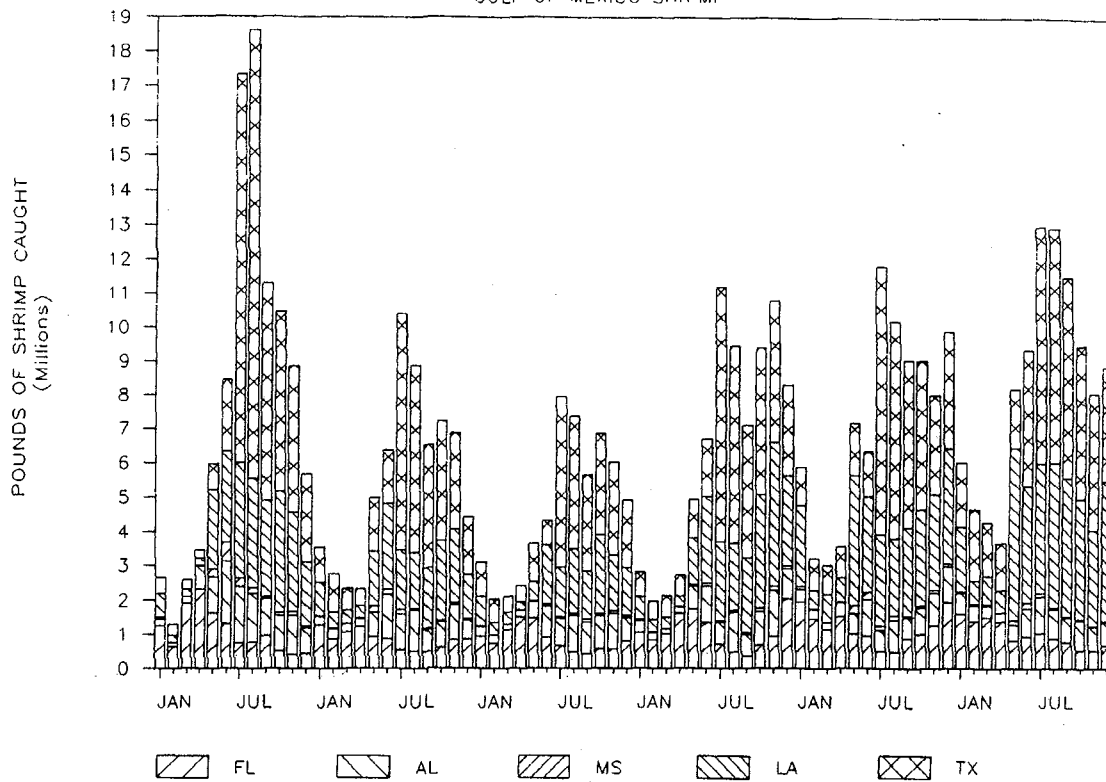
## 1986 MONTHLY AVERAGE PRICE BY STATE GULF OF MEXICO SHRIMP



GRAPH 27

## MONTHLY CATCH BY STATE 1981-1986

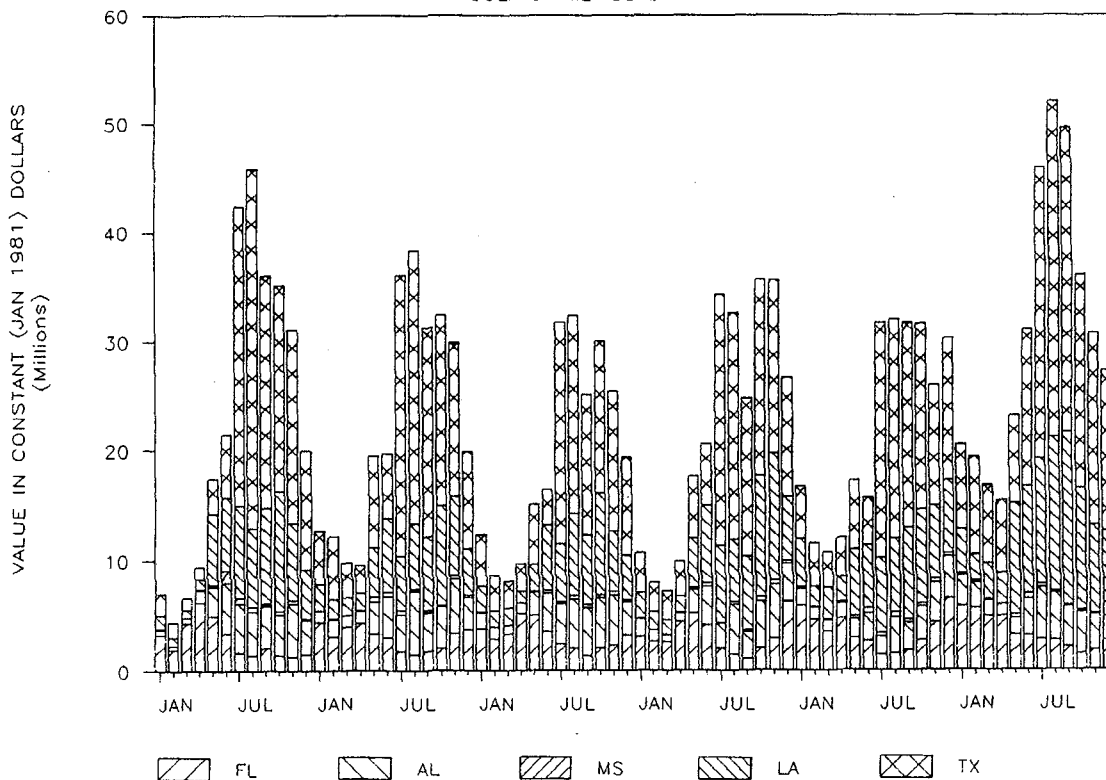
GULF OF MEXICO SHRIMP



GRAPH 28

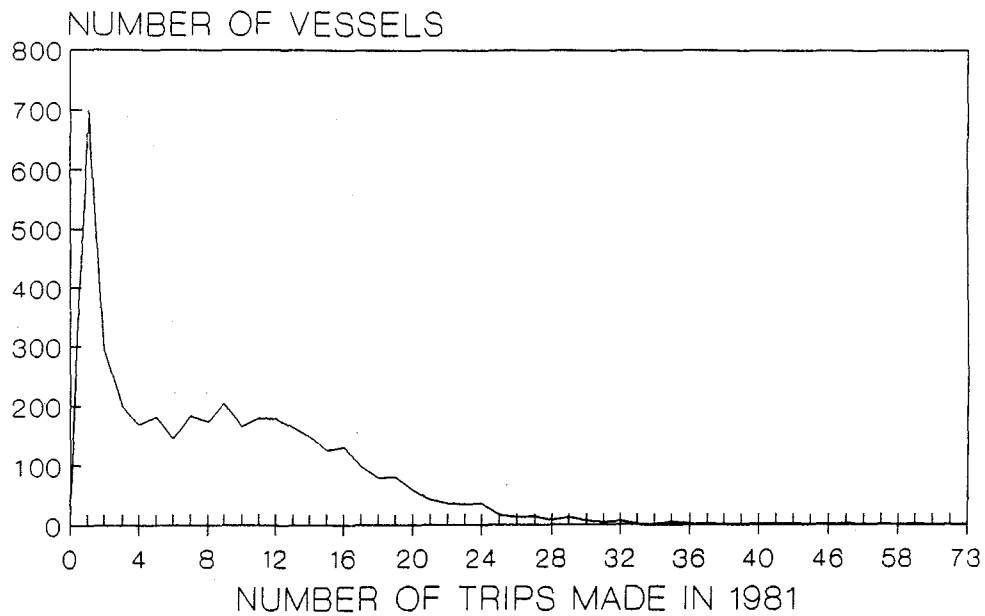
## MONTHLY CATCH VALUE BY STATE 1981-1986

GULF OF MEXICO SHRIMP



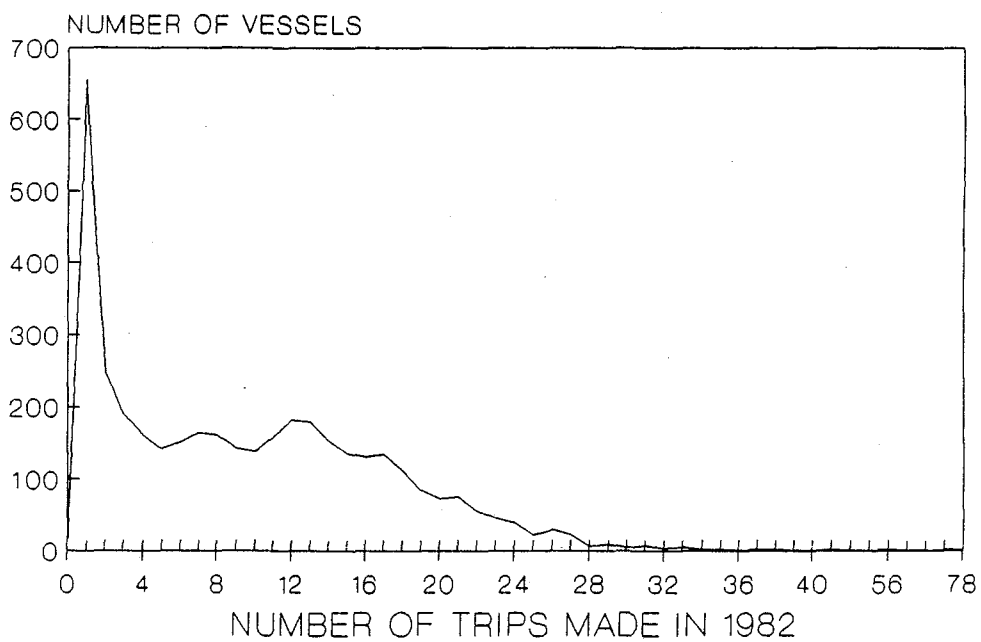
GRAPH 29

## 1981 AVERAGE TRIPS PER VESSEL GULF OF MEXICO SHRIMP



GRAPH30

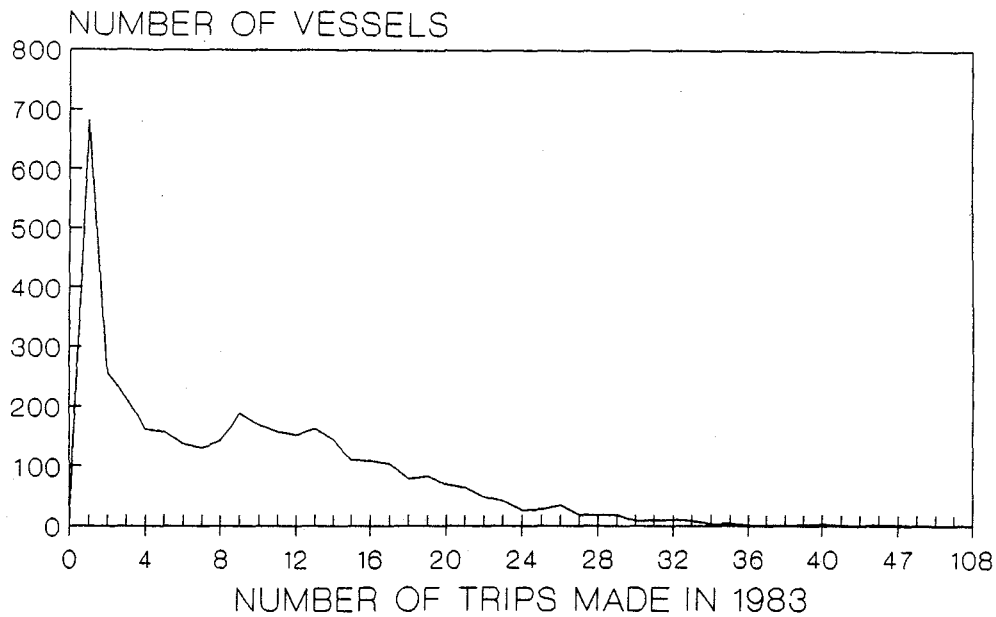
## 1982 AVERAGE TRIPS PER VESSEL GULF OF MEXICO SHRIMP



GRAPH 31

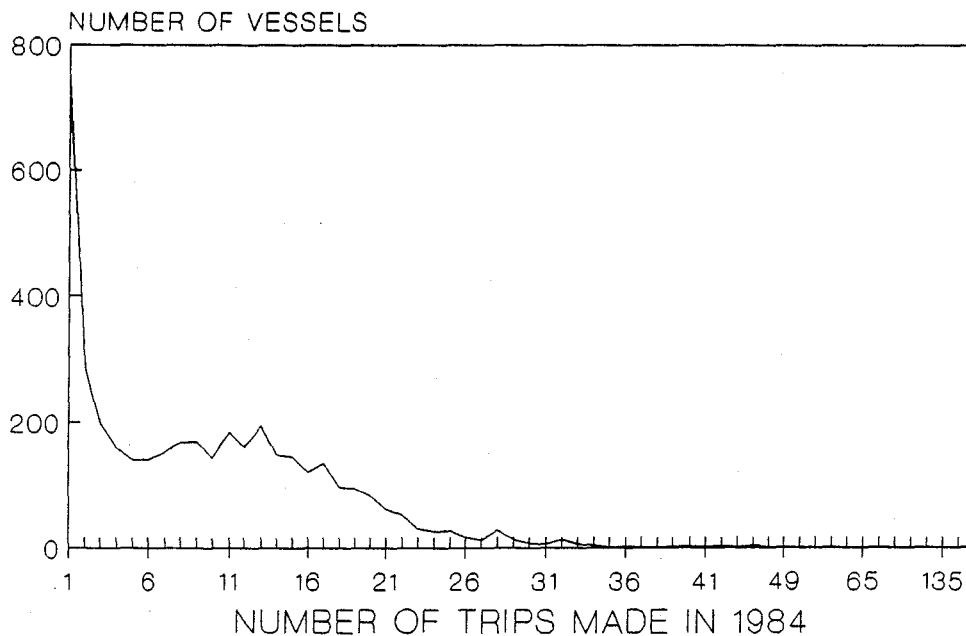


## 1983 AVERAGE TRIPS PER VESSEL GULF OF MEXICO SHRIMP



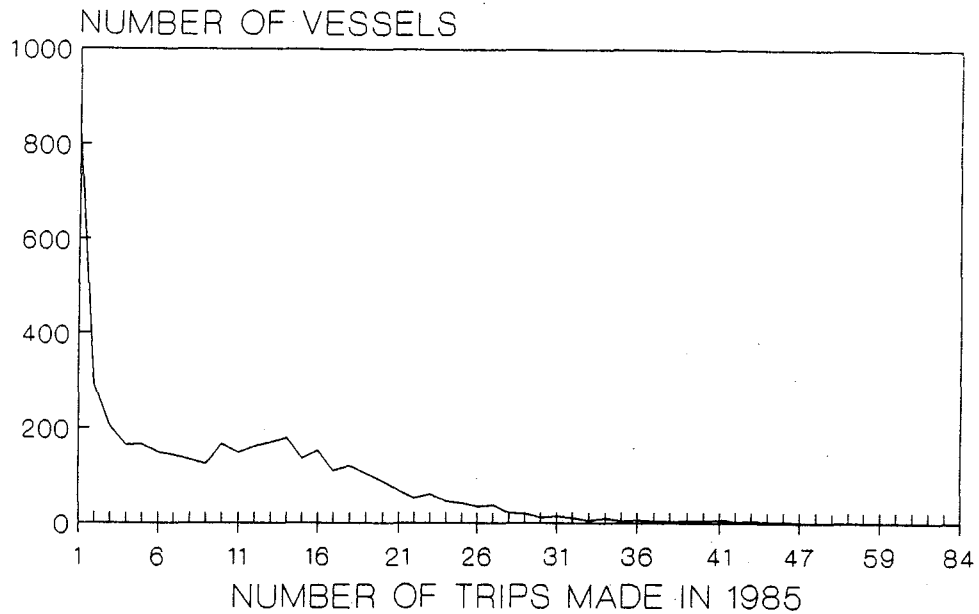
GRAPH 32

## 1984 AVERAGE TRIPS PER VESSEL GULF OF MEXICO SHRIMP



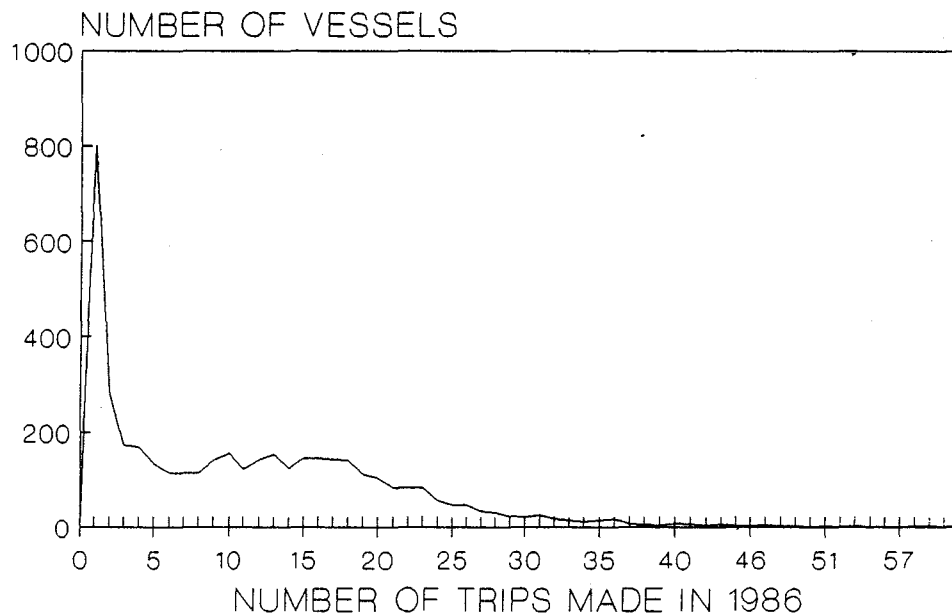
GRAPH 33

## 1985 AVERAGE TRIPS PER VESSEL GULF OF MEXICO SHRIMP



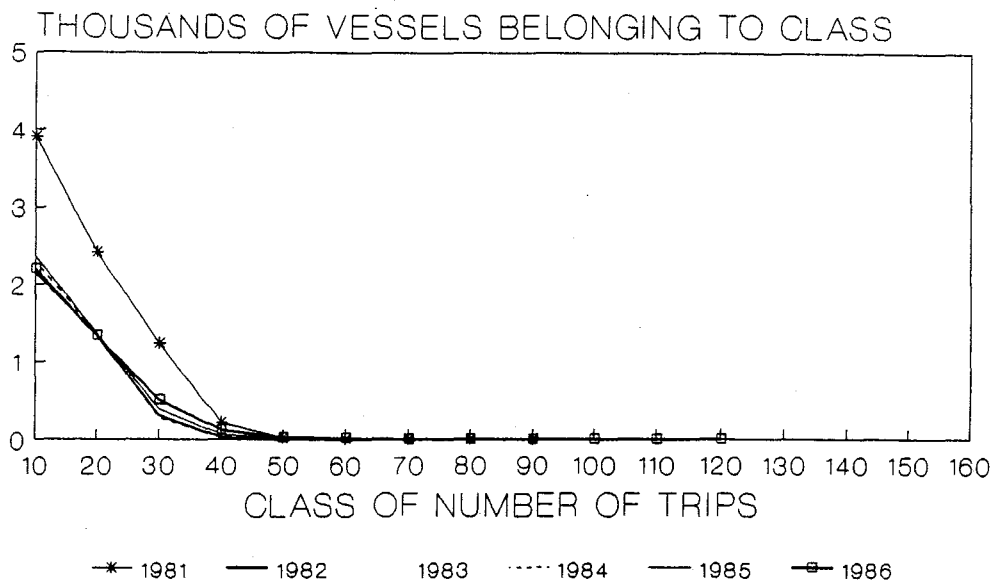
GRAPH 34

## 1986 AVERAGE TRIPS PER VESSEL GULF OF MEXICO SHRIMP



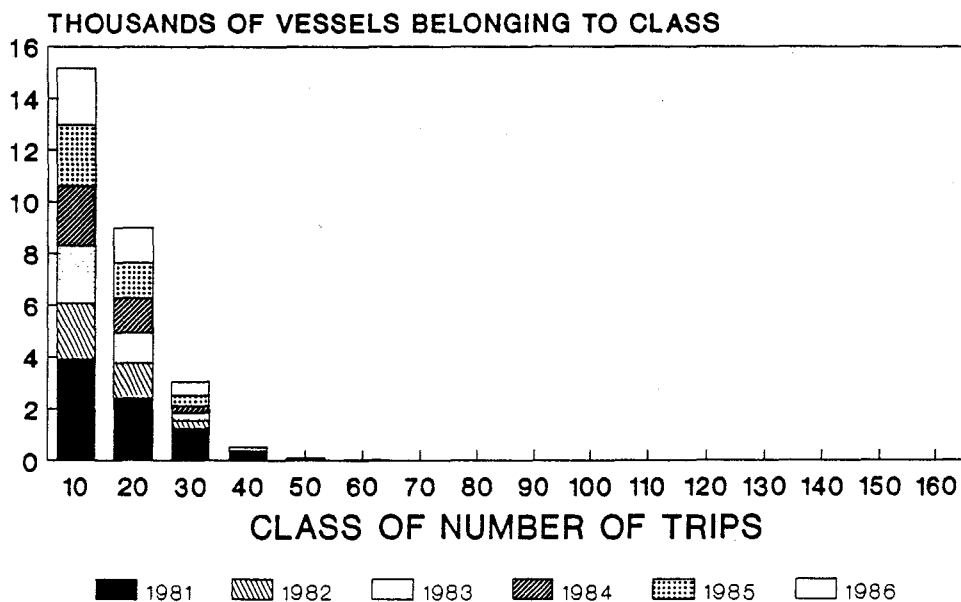
GRAPH 35

## VESSEL DISTRIBUTION BY TRIP CLASS GULF OF MEXICO SHRIMP: 1981-1986



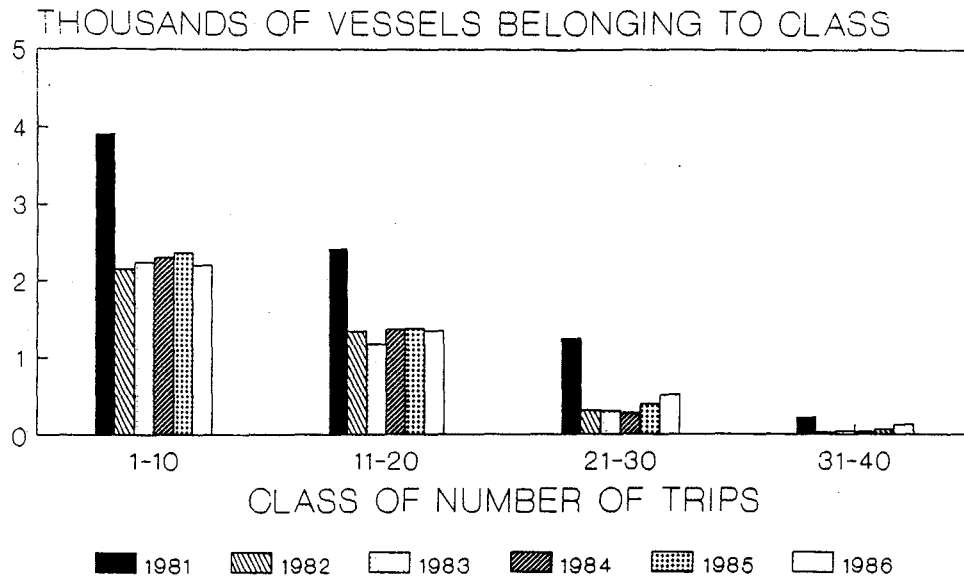
GRAPH 36

## NUMBER OF VESSELS IN TRIP CLASS GULF OF MEXICO SHRIMP: 1981-1985



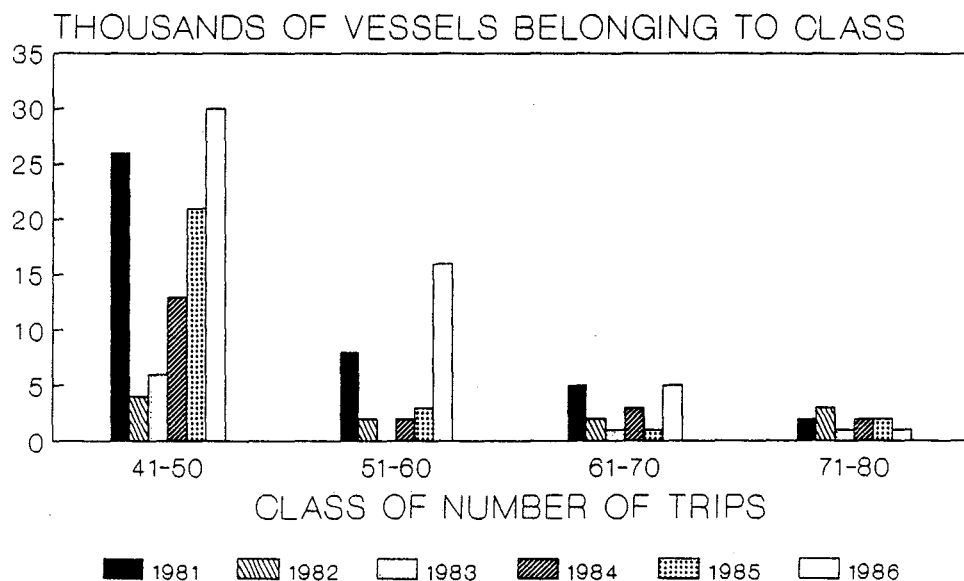
GRAPH 37

## VESSEL DISTRIBUTION BY TRIP CLASS GULF OF MEXICO SHRIMP: 1981-1986



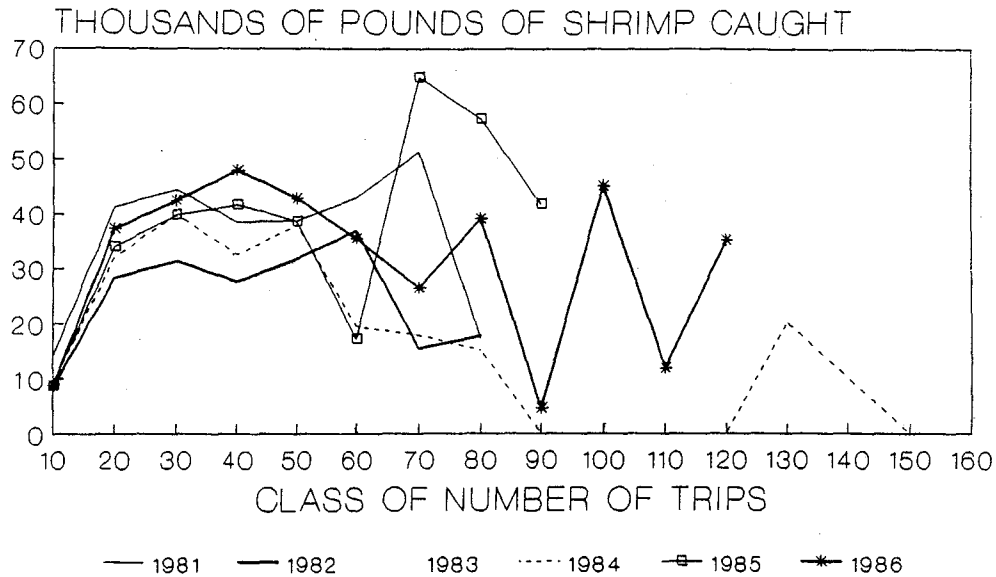
GRAPH 38

## VESSEL DISTRIBUTION BY TRIP CLASS GULF OF MEXICO SHRIMP: 1981-1986



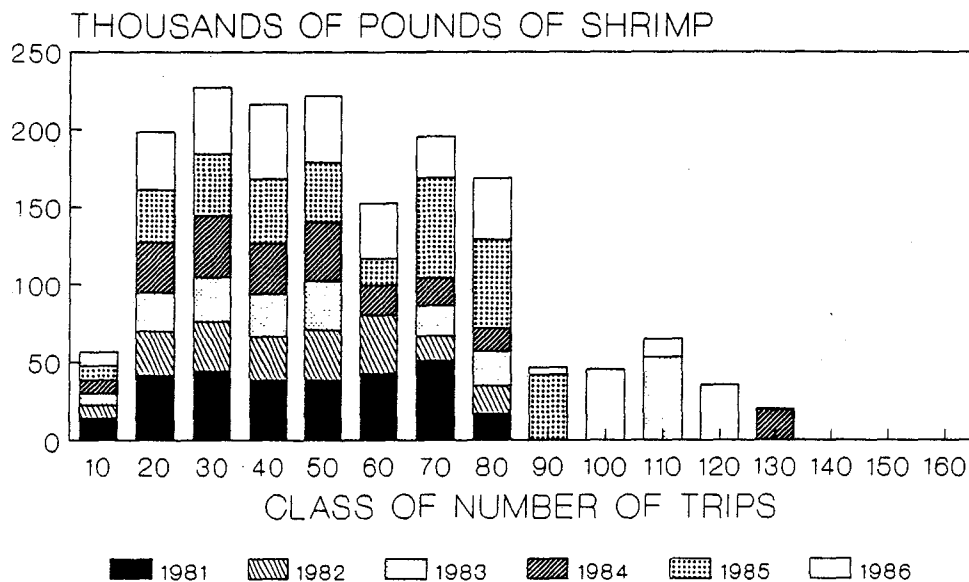
GRAPH 39

## AVERAGE CATCH BY TRIP CLASS GULF OF MEXICO SHRIMP: 1981-1986



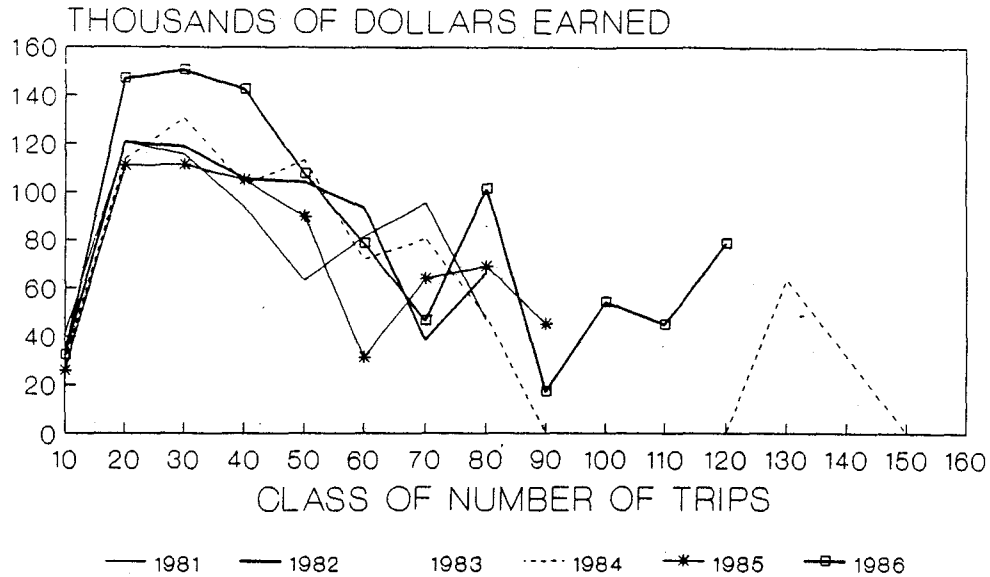
GRAPH 40

## AVERAGE LANDINGS BY TRIP CLASS GULF OF MEXICO SHRIMP: 1981-1986



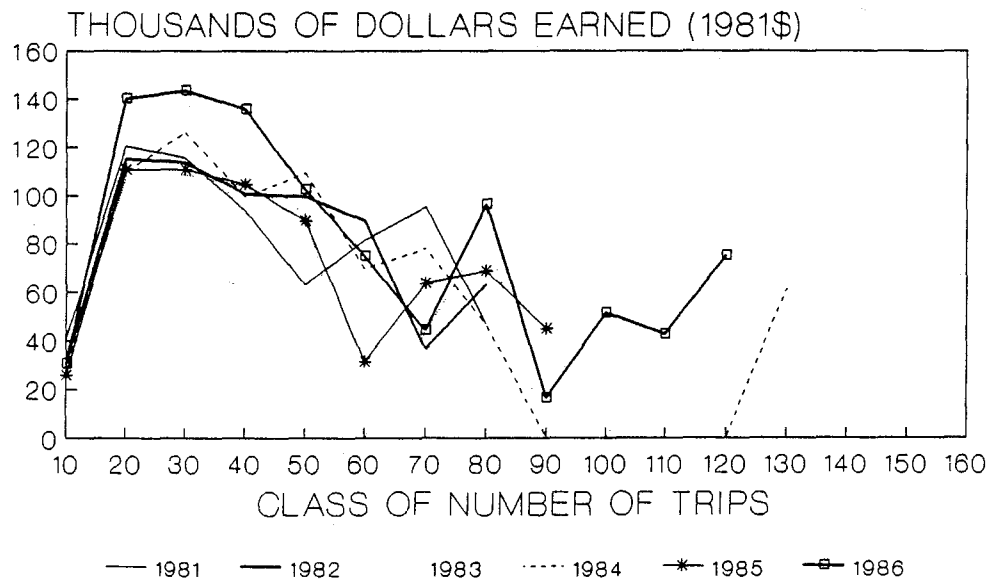
GRAPH 41

## AVERAGE EARNINGS BY TRIP CLASS GULF OF MEXICO SHRIMP: 1981-1986



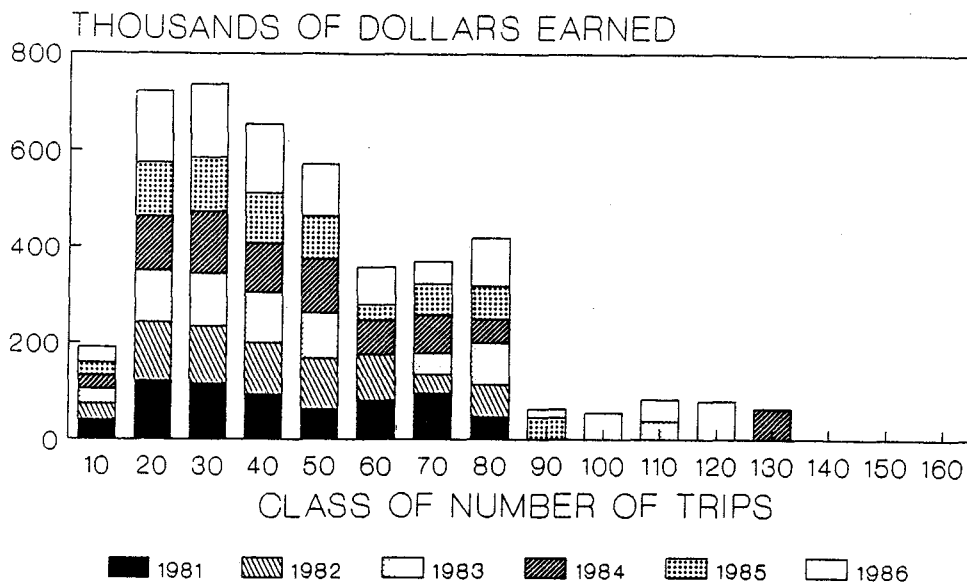
GRAPH 42

## AVERAGE EARNINGS-TRIP CLASS(1981\$) GULF OF MEXICO SHRIMP: 1981-1986



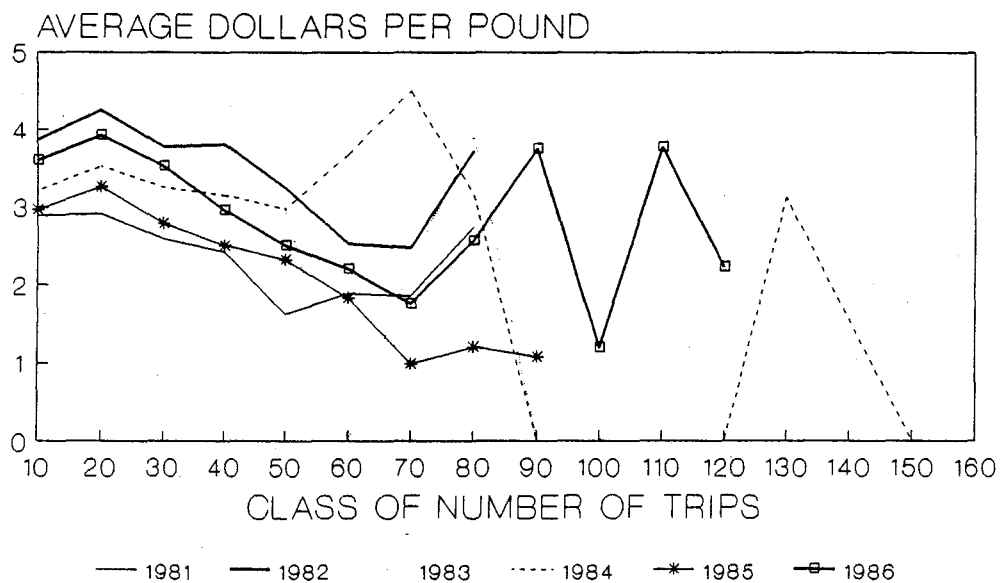
GRAPH 43

## AVERAGE EARNINGS BY TRIP CLASS GULF OF MEXICO SHRIMP: 1981-1986



GRAPH 44

## AVERAGE PRICE RECEIVED BY CLASS GULF OF MEXICO SHRIMP: 1981-1986



GRAPH 45